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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/440,467	11/15/1999	JUN YOSHIDA	35.C14025	3001
5514	7590	02/13/2004	EXAMINER	
FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112			AKHAVANNIK, HUSSEIN	
			ART UNIT	PAPER NUMBER
			2621	

DATE MAILED: 02/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/440,467

**Applicant(s)**

YOSHIDA ET AL.

**Examiner**

Hussein Akhavannik

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-13, 28 and 29 is/are pending in the application.
- 4a) Of the above claim(s) 2-5 and 7-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 12, 13, 28 and 29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

1. The drawings were received on December 12, 2003. These drawings are accepted.

### ***Response to Amendment***

2. The amendments to claims 2-5 and 7-10 overcome the Examiner's 35 U.S.C. 112 second paragraph rejection of these claims cited in paragraph 6 of the previous office action.

### ***Response to Arguments***

3. The Applicant has requested clarification with respect to claims 2-5 and 7-11. These claims were rejected under 35 U.S.C. 112 second paragraph in the previous office action in order to correct antecedent basis informalities, so that these claims would be allowable should their parent claim be allowable, thereby expediting prosecution of the instant application. However, these claims are still being treated as non-elected. No further action will be taken on the merits.
4. Applicant's arguments with respect to claims 1, 12-13, and 28-29 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 12-13, and 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kadano (U.S. Patent No. 6,334,187) in view of Rhoads (U.S. Patent No. 6,449,377), and further in view of Mintzer et al (U.S. Patent No. 5,875,249).

Referring to claims 1, 12, and 13,

a. A detection means for detecting whether an illegal process has been performed for input digital contents based on a result obtained by performing a predetermined operation for at least part of the digital contents is illustrated by Kadono in figure 10 by reference number S61 and explained in column 19, lines 11-26. The predetermined operation of determining whether an embedded watermark has been destroyed corresponds to an illegal process. The watermark is part of the digital contents, corresponding to an image, as illustrated by Kadono in figures 7(a) to 7(c).

b. Embedding means for embedding a visible or invisible digital watermark to the digital contents is illustrated by Kadono in figure 4(a). However, Kadono does not explicitly explain embedding a visible or invisible digital watermark when an illegal process has been detected. Rhoads explains the process of steganographically inserting tracer data into the image of a banknote when copying a banknote is detected in column 8, lines 30-40. Such a tracer data would allow authorities to trace the location, date, and/or time that the illegal process took place. Furthermore, data can be embedded to inform a system to halt any process which involves data that has had an illegal process associated with it as explained by Rhoads in column 8, lines 21-23. It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the tracer data as explained by Rhoads as either visible or invisible data into the illegal process detection system of Kadono because the processing performed by both system is digital and the tracer data would allow authorities to trace the illegal process and to halt any further processing performed involving the illegal data. In addition, Mintzer et al

explain that if a watermark has been tampered with (discrepancy is detected), then a system should take appropriate action to guard against malicious attacks in column 7, lines 16-29. A well-known method of guarding an image for malicious attacks is watermarking an image, so that properties of the image are recognized or so that further use of the image is halted (as explained by Rhoads). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to embed a visible or invisible watermark as explained by Rhoads when an illegal process that been detected in the systems of Kadono and Mintzer et al, so that the illegal process can be halted or traced.

c. The result of the predetermined operation indicating whether a digital watermark has been correctly embedded and judging that an illegal process has been performed when the watermark is not correctly embedded is illustrated by Kadono in figures 8(b) and figure 10 and explained in column 18, lines 37-53 and column 19, lines 11-26. Kadono explains that if the digital watermarks are correctly embedded (thereby not destroyed) the watermarks extracted from the image will match in the comparator (90). However, if the watermarks do not match, then it is determined that the watermarks have been tampered with.

d. The digital watermark being correctly embedded in the digital contents when the same watermark has been repetitively embedded throughout the digital contents is illustrated by Kadono in figure 7(a). The secret information (corresponding to the watermark) is illustrated as a shaded box embedded in the digital contents repeatedly at different locations.

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e. The detection means extracting all of the digital watermarks embedded in the digital contents and judging that an illegal process has been performed when one or more of the extracted digital watermarks is different from the other extracted digital watermarks is illustrated by Kadono in figure 8(b) and explained in column 18, lines 37-53. Kadono explains extracting both of the secret information embedded in an image signal (86a and 86b) and comparing the two signals in the comparator (90) in order to determine if the signals are identical. If the signals are identical, then the secret information is determined to be proper (legal). However, if the signals are different the secret information is determined to have been destroyed (S61 of figure 10).

Referring to claims 28 and 29, the embedding means indicating information concerning the transmission of the digital contents corresponds to claim 1b or 12b. Rhoads explains in column 8, lines 20-40 that the tracer data may include information about the location, date, and/or time that the illegal process took place, thereby indicating information about the transmission of the digital contents.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wong (U.S. Patent No. 6,504,941) – To exhibit repeatedly watermarking an image in order to determine tampering as illustrated in figure 8.

Braudaway et al (U.S. Patent No. 5,825,892) – To exhibit repeatedly watermarking within a plane of an image as illustrated in figure 8.

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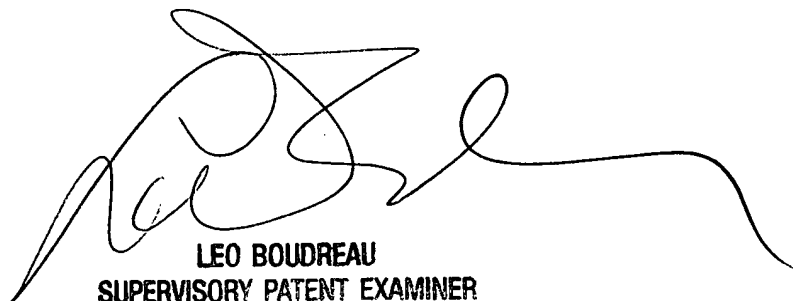
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hussein Akhavannik whose telephone number is (703)306-4049. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo H. Boudreau can be reached on (703)305-4706. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hussein Akhavannik  
February 5, 2004

HA.

A handwritten signature in black ink, appearing to read 'Leo Boudreau', with a long horizontal flourish extending to the right.

**LEO BOUDREAU**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2600**